

REMARKS

In the March 3, 2003 Office Action, the Examiner noted that claims 16-35 were pending in the application; required a new title; rejected claims 16-18, 28-30 and 34 under 35 U.S.C. § 102(b); and objected to claims 19-27, 31-33 and 35 as dependent upon a rejected base claim. In rejecting the claims, U.S. Patent 5,307,029 to Schenk was cited. The Examiner's rejections are traversed below.

The Invention

The present invention is directed to a circuit for generating a signal at a transmit frequency, while suppressing undesirable frequencies caused by switching. Many types of transmitters generate signals that are switched on and off repeatedly. For example, it is common for mobile telephones to transmit only during specific time periods. In the present invention, undesirable frequencies are suppressed by dividing the output of oscillator 2 (Fig. 5) in divider circuit 19 and then mixing the output of divider 19 and oscillator 2 in mixer 32 prior to bandpass filtering and output of the transmit signal.

The Prior Art: U.S. Patent 5,307,029 to Schenk

The Schenk patent is directed to an apparatus for generating multiple frequency tones using a digital frequency divider. In the disclosed embodiment "the 8 frequency tones ... [are used] to tune 2000 MHz in 200 MHz sub-bands" (column 6, lines 4-6), not to generate a transmit signal. In the circuit illustrated in Fig. 2 of Schenk, a 1200 MHz phase-locked oscillator 11 generates a signal that is split in two. One of the signals output by splitter 12 undergoes frequency division in divider 13a to generate output signals that closely resemble square waves with an asymmetrical output at 200 MHz and odd and even harmonics thereof. The output signal from divider 13a is filtered in a bandpass filter 14 prior to mixing in mixer 15 with the other signal output by splitter 12. The output of mixer 15 is split four ways by splitter 16. The four outputs of splitter 16 pass through bandpass filters 17-20 to generate tone signals at 800 MHz, 1400 MHz, 1800 MHz and 2000 MHz.

Title of the Invention

In item 1 on page 2 of the Office Action, a new title was required "that is clearly indicative of the invention to which the claims are directed." This requirement is not understood, since the title seems to be a very accurate description of the subject matter recited in the broadest claims.

The Examiner is respectfully requested to contact the undersigned by telephone to explain what changes to the title are desired, so that an appropriate amendment can be made.

Rejections under 35 U.S.C. § 102(b)

In item 3 of the Office Action, claims 16-18, 28-30 and 34 were rejected under 35 U.S.C. § 102(b) as anticipated by Schenk. In making this rejection, column 2, lines 56-61 of Schenk was cited as indicating "that the Schenk circuit was for a transceiver" (Office Action, page 2, lines 12-13). However, as noted at the end of column 2 the circuit disclosed by Schenk "may be used in wide band radio **receiver** or transceiver applications" (column 2, lines 66-67, emphasis added). Since the circuit taught by Schenk can be used in a receiver, it is clear that the circuit is not intended "for generating a **transmit** frequency" (claim 16, line 1, emphasis added) nor does it produce "an output used in generating a signal at the **transmit** frequency" (claim 16, last line, emphasis added). Rather, as described above, the circuit taught by Schenk generates multiple frequencies that are used for tuning in a receiver or the receiver portion of a transceiver.

For the reasons set forth above, it is submitted that claim 16 and claims 17, 18, 28-30 and 34 which depend there from patentably distinguish over Schenk.

New Claim 36

Claim 36 has been added with the same limitations as claim 16, plus the prepositional phrase, "with frequency jumps caused by switching suppressed" (claim 36, last line). As described in the specification, "the generation of frequencies is disrupted at the moment of the switching on of the transmit amplifier owing to load change in the amplifier or due to feedback" (Substitute Specification, paragraph [0004], lines 1-3). This problem of the prior art is not even hinted at Schenk, but is overcome by the circuit recited in claims 16 and 36. It is submitted that one of ordinary skill in the art would not have found it obvious from what is disclosed in Schenk to eliminate the splitter 12 and the remaining components after mixer 15 in the circuit illustrated in Fig. 2 of Schenk and use the resulting circuit to generate a transmit signal that overcomes the problem described in the Background of the Invention section of the application. Therefore, it is submitted that claim 36 patentably distinguishes over Schenk for all of the reasons discussed above.

Allowable Claims

In item 4 on pages 2-3 of the Office Action, the Examiner objected to claims 19-27, 31-33 and 35 as dependent upon a rejected base claim, but allowable if rewritten in independent form. Claim 20 has been amended to form an independent claim. Since claims 21-27 depend from claim 20, it is respectfully requested that at least claims 20-27 be indicated as allowable over the prior art.

Summary

It is submitted that Schenk does not teach or suggest the features of the present claimed invention. Thus, it is submitted that claims 16-19 and 28-36, in addition to claims 20-27 are in a condition suitable for allowance. Reconsideration of the claims and an early Notice of Allowance are earnestly solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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